

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/790,810	CHE ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Zachary C. Tucker	1624	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 18 April 2006.
2. ☒ The allowed claim(s) is/are 1-11 and 13-17.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

***Response to Amendment***

As requested in the 18 April 2006 correspondence (hereinafter "present amendment") filed by applicants in reply to the Office action mailed 18 January 2006 (hereinafter "previous Office action"), claims 1-7, 9-11 and 13-17 have been amended and claim 12 cancelled.

***Status of Claim Rejections - 35 USC § 112***

In the previous Office action, claim 2 was rejected under the second paragraph of 35 U.S.C. 112, for indefiniteness because of the recitation of "said compound" without identifying which compound was being referred to.

In view of the present amendment to claim 2, which now specifies "said sulfamate compound" instead of "said compound," the rejection is hereby withdrawn. "Sulfamate" was introduced between the word "said" and "compound" in claim 1 as well by the present amendment.

Claim 11 was rejected under the second paragraph of 35 U.S.C. 112, because the definition of "M" in that claim was broader than the definition for the same variable in claim 10, from which 11 depends. Claim 10 defines "M" as a transition metal, not "a metal," generically. In view of the present amendment to claim 11, deleting the definition of "M," which is unnecessary in light of the variable being defined in claim 10, from which 11 depends, the rejection is hereby withdrawn.

Claim 12, it is noted, has been cancelled, because it duplicated limitations of claim 10.

***Status of Claim Rejections - 35 USC § 103***

In the previous Office action, claims 1-6, 9 and 10 were rejected under 35 U.S.C. 103(a) as being unpatentable over Espino et al, *Journal of the American Chemical Society*, vol. 123, pages 6935-6936 (2001), in view of Aoyama et al, *Journal of Organic Chemistry*, vol.52, pages 2555-2559 (1987).

The rejection is hereby withdrawn in view of applicants' argument, specifically at page 11 of the correspondence filed 18 April 2006, first full paragraph . It is true that the Aoyama et al reference, although rhodium metalloporphyrin catalysts are disclosed, teaches a hydroboration oxidation reaction of olefins, not sulfamates. The reactions reported in Aoyama et al and Espino et al are not equivalent by any means, therefore, one of ordinary skill would not have a high expectation of success in applying Aoyama et al's catalyst to the cyclization reactions disclosed in Espino et al, even though a rhodium-based catalyst is common to each reference. The rhodium-based catalyst in Espino et al is a dirhodium complex, while the metalloporphyrins of Aoyama et al are single metal atom rhodium-porphyrin compounds. Neither the catalysts nor the reactions in the two references relied upon are equivalent for the purposes of arguing that substitution of one for the other would be *prima facie* obvious to the skilled chemist.

In conclusion, the examiner agrees with applicants' statement that it is too speculative to base a finding of *prima facie* obviousness on the general statement provided in Espino et al – "C-H amination under Rh-catalysis has general applicability with a range of structurally disparate starting materials." No suggestion to employ any other type of rhodium-based catalyst is provided in Espino et al.

***Claim Objections***

Claims 4 and 5 were objected to for a punctuation error in the previous Office action. The present amendment has remedied this deficiency and therefore the objection is withdrawn.

***Declaration***

In the previous Office action, the declaration was objected to because there was no post office address provided for the inventors. In view of the newly submitted declaration, the objection thereto is withdrawn.

***Allowable Subject Matter***

Claims 1-11 and 13-17 are allowed.

A rejection under 35 U.S.C. 103(a) was the only prior art rejection set forth in the previous Office action, and that rejection has been overcome by argument. Upon reconsideration, the examiner agrees with applicants that it cannot fairly be said that the presently claimed subject matter is obvious over Aoyama et al in view of Espino et al.

The closest prior art with respect to the subject matter of the allowed claims is Espino et al, which teaches an alternate method of making cyclic sulfamidates.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

All Post-Allowance Correspondence concerning this application must be mailed to:

Mail Stop Issue Fee  
Commissioner for Patents  
P.O. Box 1450

Art Unit: 1624

Alexandria, VA 22313-1450

Or you can fax them to the Office of Patent Publications at 703-872-9306, in order to expedite the handling of such correspondence as amendments under 37 CFR 1.312; information disclosure statements, and formal drawings. Sending Post-Allowance papers to Technology Center 1600 will only cause delays in matching papers with the case.

For information concerning status of correspondence sent after receipt of the Notice of Allowance, please contact the Correspondence Branch at (703) 305-8027. The Notice of Allowance also has an insert containing contact information on other items, including Issue Fees, receipt of formal drawings and the status of the application.  
zt

A handwritten signature in black ink, appearing to be "Z. L. H.", written in a cursive style.

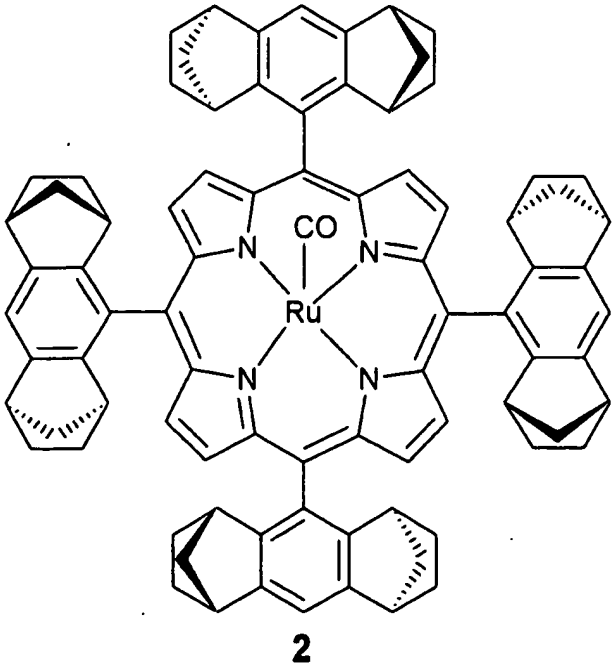
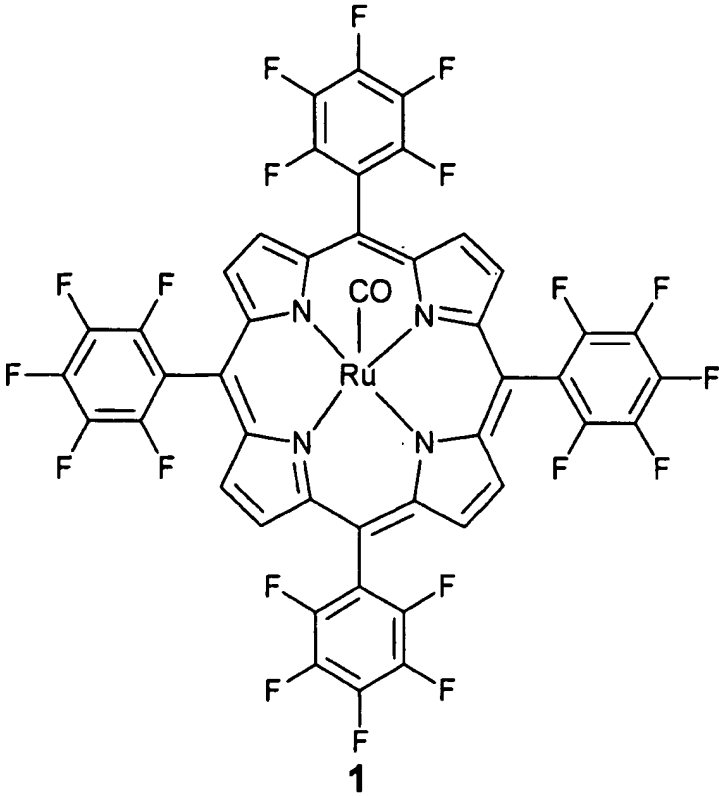
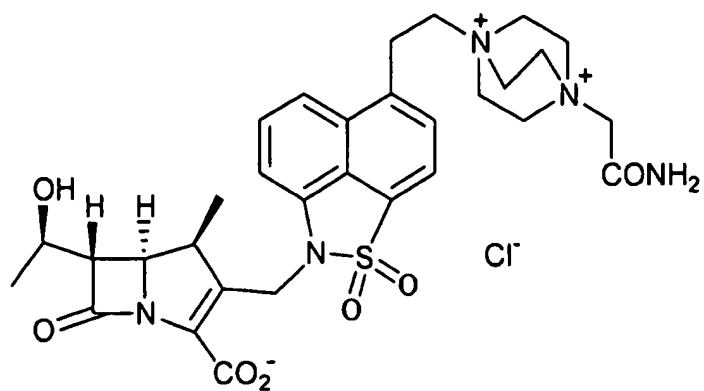


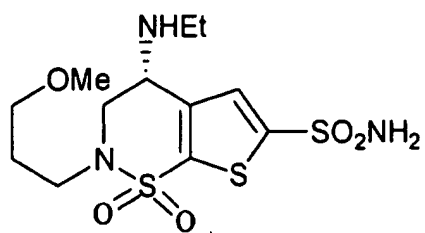
FIG. 1

Class	Subclass
544	2

2/7



L-786,392 3



Brinzolamide 4

FIG. 2

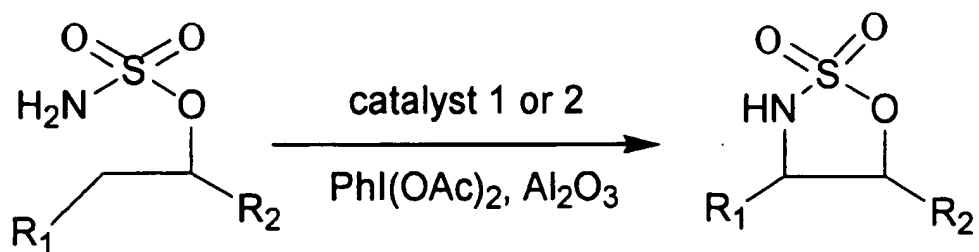
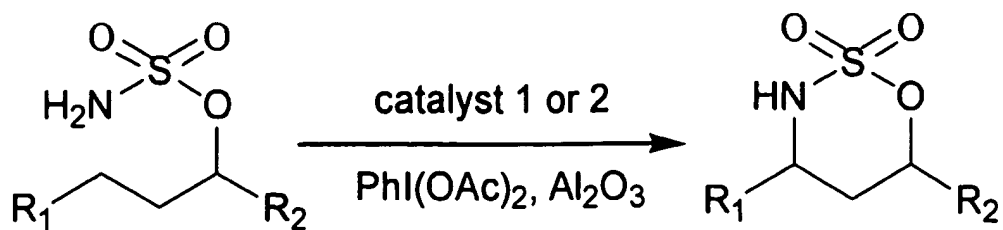
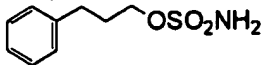
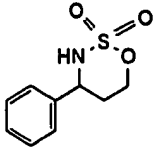
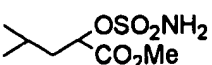
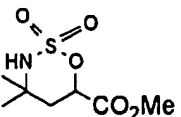
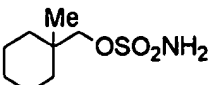
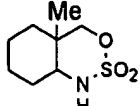
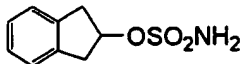
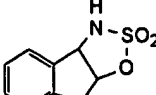
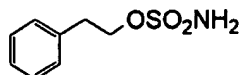
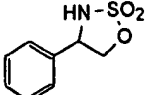
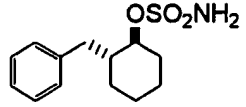
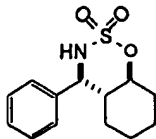


FIG. 3



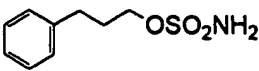
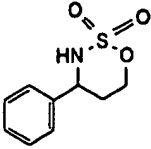
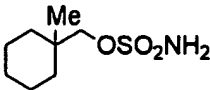
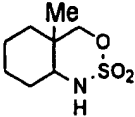
Intramolecular amidation catalyzed by  $[\text{Ru}^{\text{II}}(\text{TPFPP})(\text{CO})]$  (1)<sup>a</sup>

Entry	Substrates	Products	Yield (%)
1	 <b>5</b>	 <b>11</b>	77
2	 <b>6</b>	 <b>12</b>	76
3	 <b>7</b>	 <b>(cis)-13</b>	88
4	 <b>8</b>	 <b>(cis)-14</b>	61
5	 <b>9</b>	 <b>15</b>	56
6	 <b>10</b>	 <b>16</b>	88

<sup>a</sup>Reaction conditions: catalyst: substrate:  $\text{PhI}(\text{OAc})_2$  = 0.015: 1: 2;  $\text{CH}_2\text{Cl}_2$ , 40°C, 2 h.

FIG. 4

**High turnover intramolecular amidation catalyzed by  $[\text{Ru}^{\text{II}}(\text{TPFP})\text{(CO)}]$  (1)**

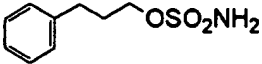
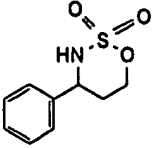
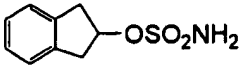
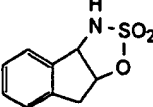
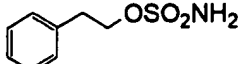
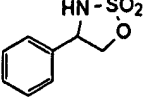
Entry	Substrate	Product	Yield (%)	Turnover
1 <sup>a</sup>	 <p><b>5</b></p>	 <p><b>11</b></p>	29	290
2 <sup>b</sup>	 <p><b>7</b></p>	 <p><b>(cis)-13</b></p>	38	301

<sup>a</sup>Reaction conditions: catalyst: substrate:  $\text{PhI}(\text{OAc})_2$  = 1: 1000: 2000;  $\text{CH}_2\text{Cl}_2$ , 40°C, 20 h.

<sup>b</sup>Reaction conditions: catalyst: substrate:  $\text{PhI}(\text{OAc})_2$  = 1: 800: 1600;  $\text{CH}_2\text{Cl}_2$ , 40°C, 20 h.

**FIG. 5**

**Asymmetric intramolecular amidation catalyzed by  $[\text{Ru}^{\text{II}}(\text{D}_4\text{-Por}^*)(\text{CO})]^\text{a}$**

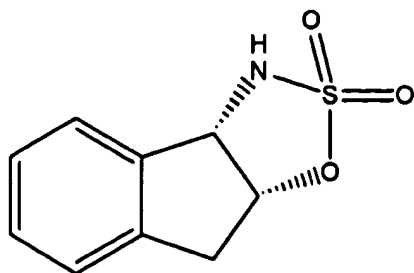
Entry	Substrate	Product	Solvent	Yield (%)	Ee (%) <sup>b</sup>
1			$\text{CH}_2\text{Cl}_2$	77	46
2	<b>5</b>	<b>11</b>	$\text{C}_6\text{H}_6$	63	79
3			$\text{C}_6\text{H}_6$	48	84 <sup>c</sup>
4			$\text{CH}_2\text{Cl}_2$	57	71
5			$\text{C}_6\text{H}_6$	53	81
6	<b>8</b>	<b>14</b>	$\text{C}_6\text{H}_6$	39	82 <sup>c</sup>
7			PhMe	39	77 <sup>d</sup>
8			$\text{CH}_2\text{Cl}_2$	53	69
9			$\text{C}_6\text{H}_6$	43	82
	<b>9</b>	<b>15</b>			
10			$\text{C}_6\text{H}_6$	35	87 <sup>c</sup>

<sup>a</sup>Reaction conditions: catalyst: substrate:  $\text{PhI}(\text{OAc})_2 = 1: 10: 14$ ;  $40^\circ\text{C}$  for 2 h. <sup>b</sup>Ee was determined by HPLC using chiral OD column. <sup>c</sup>Reaction at  $4^\circ\text{C}$  and 8 h. <sup>d</sup>Reaction at  $0^\circ\text{C}$  and 8 h.

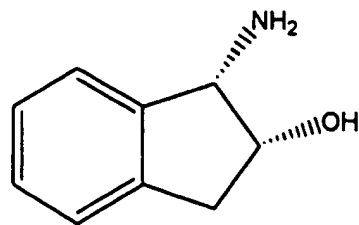
**FIG. 6**

Class	Subclass
544	2

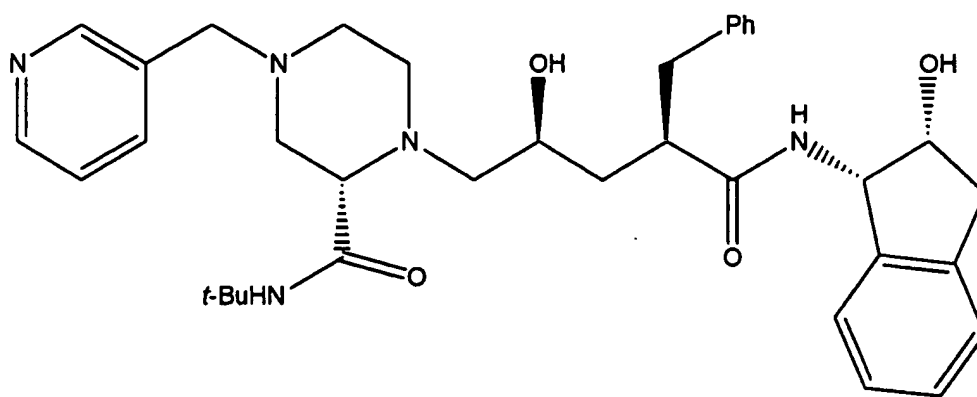
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(1S,2R)-14



17



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FIG. 7